

REMARKS

There are now pending in this application Claims 98-121, with Claims 98, 117, and 118 being the independent claims. Claims 1-97 have been cancelled and Claims 98-121 are newly-added.

The newly-added Claims 98-121 have been added to provide an additional scope of protection. Support for the newly-added claims, may be found, for example, on page 5, line 24, et. seq. of the specification. No new matter has been added.

In the Official Action, dated December 13, 2002, the Examiner noted that certified copies of the foreign priority documents had not yet been filed. Accordingly, Applicants enclose, herewith, a Claim to Priority along with certified copies of the five foreign priority applications filed in the United Kingdom on March 5, 1999.

Applicants note with appreciation the minor corrections made by the Examiner with regard to the information disclosure statement filed August 23, 2001. The changes to that document are acceptable to the Applicants.

The title of the present application has been amended to read –Database Annotation and Retrieval Including Phoneme Data– as suggested by the Examiner in the Official Action.

In the Official Action, the specification was objected to as failing to provide proper antecedent basis for the claimed subject matter. Additionally, several claims were objected to because the Examiner asserted that particular phrases contained therein lacked clarity. These objections are deemed to be moot in view of the cancellation of Claims 1-97 and the addition of Claims 98-121, which are submitted to be fully supported by the specification.

Claims 73, 74, 77, and 78 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The new claims are submitted to be in full compliance with the particularity and distinctness requirements of the statute.

Claims 1-13 and 93-97 were rejected under 35 U.S.C. 101 because the Examiner asserts that the claimed invention is directed to non-statutory subject matter. This rejection is deemed to be moot in view of the cancellation of Claims 1-97 and the addition of Claims 98-121.

In the Official Action, several claims were rejected under 35 U.S.C. § 102 and 35 U.S.C. § 103. Claims 1-8, 10, and 12-13 were rejected under 35 U.S.C. § 102(b) as being anticipated by Bird, et al. ("Towards a Formal Framework for Linguistic Annotations"). Claims 35, 60, 84, 86, 87, and 89 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kupiec (U.S. Patent No. 5,500,920). Claims 93-95 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ellozy (U.S. Patent No. 5,649,060). Claims 9, 14, 21-24, 31-34, 36-47, 50-51, 54-59, 61-72, 75-76, 79-83, 85, 88, and 96-97 were rejected under 35 U.S.C. § 103 as being unpatentable over Bird, et al. ("Towards a Formal Framework for Linguistic Annotations") in view of Kupiec (U.S. Patent No. 5,500,920). Claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bird, et al. ("Towards a Formal Framework for Linguistic Annotations"), of record, in view of James, et al., ("A Fast Lattice-Based Approach to Vocabulary Independent Wordspotting," 1994 IEEE International Conference on Acoustics, and Signal Processing, (1994)). Claims 15-19 and 25-29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bird, et al. ("Towards a Formal Framework for Linguistic

Annotations”), of record, in view of Kupiec (U.S. Patent No. 5,500,920), and further in view of Garber, et al. (U.S. Patent No. 6,321,226). Claims 20 and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bird, et al. (“Towards a Formal Framework for Linguistic Annotations”), of record, in view of Kupiec (U.S. Patent No. 5,500,920) and Garber, et al. (U.S. Patent No. 6,321,226), and further in view of Rose, et al. (U.S. Patent No. 5,870,740). Claims 48-49, 52-53, 73-74, and 77-78 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bird, et al. (“Towards a Formal Framework for Linguistic Annotations”), of record, in view of Kupiec (U.S. Patent No. 5,500,920), and further in view of James, et al. (“A Fast Lattice-Based Approach to Vocabulary Independent Wordspotting,” IEEE International Conference on Acoustics, Speech, and Signal Processing, (1994)). Claims 90-92 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kupiec (U.S. Patent No. 5,500,920).

These rejections under 35 U.S.C. § 102 and 35 U.S.C. § 103 are also deemed to be moot in view of the cancellation of Claims 1-97. Claims 98-121 are deemed to be patentable over the cited art.

With respect to newly-presented Claim 98, the present invention relates to a data structure for use in accessing a plurality of data files. The data structure comprises a plurality of annotation storage areas adapted to correspond with the data files, each annotation storage area containing an annotation representing a time sequential signal and each annotation storage area comprising a plurality of block storage areas each containing phoneme and word data forming a respective temporal block of the annotation and each block having an associated time index identifying a timing of the block within the corresponding annotation. Each block storage area includes a plurality of node storage areas, each associated with a node which

represents a point in time at which a word and/or phoneme begins or ends within the corresponding annotation, and each node storage area having a time offset storage area containing a time offset defining the point in time represented by the node relative to the time index associated with the corresponding block. Each node storage area further has one or more phoneme link storage areas, each having a phoneme storage area containing data identifying a phoneme associated with the corresponding node or one or more word link storage areas, each having a word storage area containing data identifying a word associated with the corresponding node. One or more of the node storage areas has at least one of the phoneme link storage areas and at least one of the word link storage areas.

Claim 117 relates to a computer readable medium storing computer executable instructions for defining data structure for use in accessing a plurality of data files and corresponds generally to Claim 98.

With respect to newly-presented Claim 118, the present invention relates to a data structure defining a phoneme and word lattice. The data structure comprises data for defining a plurality of nodes within the lattice and a plurality of links connecting the nodes within the lattice; data associating a plurality of phonemes with a respective plurality of links; and data associating at least one word with at least one of the links. The data structure defining the phoneme and word lattice is arranged in a time ordered sequence of blocks.

Applicants submit that the prior art fails to anticipate the present invention. Moreover, Applicants submit that there are differences between the subject matter sought to be patented and the prior art of record, such that the subject matter taken as a whole would not have been obvious at the time the invention was made to one of ordinary skill in the art.

The Bird, et al. reference details a formal framework for linguistic annotation, with a specific focus on the logical structure of linguistic annotations. The reference discusses a survey of a wide variety of existing annotation formats and demonstrates a common conceptual core, the annotation graph, which provides a formal framework for constructing, maintaining, and searching linguistic annotations, while remaining consistent with alternative data structures and file formats.

However, Applicants submit that Bird, et al. fails to disclose or suggest at least the above-discussed features of the present invention. In particular, the Bird, et al. reference fails to disclose or suggest a plurality of block storage areas each containing phoneme and word data forming a respective temporal block of the annotation and each block having an associated time index identifying a timing of the block within the corresponding annotation, as disclosed and claimed in the present application (Claims 98 and 117). Further, the Bird, et al. reference fails to disclose or suggest each node storage area having a time offset storage area containing a time offset defining the point in time represented by the node relative to the time index associated with the corresponding block (Claims 98 and 117). The Bird, et al. reference also fails to disclose or suggest the data structure defining the phoneme and word lattice that is arranged in a time ordered sequence of blocks (Claim 118).

The other cited references fail to remedy the deficiencies of Bird, et al.

For the above reasons, Applicants submit that independent Claims 98, 117, and 118 are allowable over the cited art.

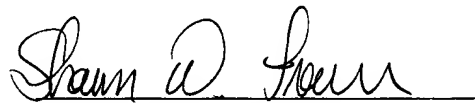
The dependent claims depend from one or another of the independent claims and are believed allowable for the same reasons. Moreover, each of these dependent claims

recite additional features in combination with the features of their respective independent claims and is believed allowable in its own right. Individual consideration of the dependent claims respectfully is requested.

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Official Action and submit that the application is in condition for allowance. Favorable consideration of the claims and early passage to issue of the present application earnestly are solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Shawn W. Fraser", is written over a horizontal line.

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